LIMESTONES AND COAL.

CHEMICAL ANALYSES BY WILLIAM H. SAUNDERS.

The following quantitative chemical analyses are of two varieties of limestones from Junction City, and two varieties of coals, found along the line of the Kansas Pacific railroad, in Colorado. Stone No. 1 is the quality ordinarily used. No. 2 is from a new quarry lately opened. A decided difference will be noticed between the samples. No. 2 is free from pores, and although it has a very considerable amount of magnesia in its composition, it is my opinion, based on its compactness, the large amount of silicates present, and its slow solubility in acids, that it will prove more durable than the quality ordinarily used. The color, a light drab, is very fine:

LIMESTONES.	No. 1.	No. 2.
Hygrometric moisture escaping at 212° F.	.55	.75
Carbonate of Lime	88.85	67.23
Carbonate of Magnesia	4.15	17.45
Sesqui-oxide of Iron and Alumina, mostly Iron	1.20	2.05
Insoluble Silica and Silicates	5.10	12.20
Loss	.15	.32
	100.00	100.00

COAL NO. 1.

Water, hygrometric	11.00
Illuminating Gas	per lb., 1.64 cub. ft.
Quality	poor
Tar	abundant
Sulphur	1.50
Coke	52.00
Ash	6.18
Rate of Combustion in open air	medium

or,

Volatile matter	48.00
Fixed Carbon	45.82
Ash	6.18
	100.00

COAL NO. 2.

Water, hygrometric	13.00
Uncondensed Gases	per lb., 1.40 cub. ft.
Illuminating quality	none
Tar	small amount
Sulphur	0.89
Coke	52.34
Ash	17.50
Rate of combustion in open air	medium

or,

Volatile matter	47.66
Fixed Carbon	34.84
Ash	17.50
	100.00

No. 1 is a cannel coal. No. 2 is a fair lignite, distinguished for containing a very small per cent. of sulphur.